Guidance on the choice of data sources for cost weights in cost-effectiveness analyses in the literature is scarce with few empirical examples of cost weights derived from different approaches.

OBJECTIVES: This paper describes the large differences that can be found in cost weights derived from different data sources and analytic approaches. We highlight the implications of the choice of costing data source and the magnitude of error that could be introduced by assuming data parity in direct comparisons of different studies. Though our examples focus on HIV disease treatment, the issues we explore are generic to cost estimation for all conditions.

METHODS: We compared annual HIV disease treatment cost weights from two data sets, the HIV Cost and Services Utilization Study (HCSUS) survey and South Carolina Medicaid data. Cost weights for hospital and nursing home stays and emergency room and physician visits were included in the analyses.

RESULTS: The cost weights for Medicaid patients with AIDS were $15,033 in HCSUS and $10,281 in SC Medicaid data. Within the HCSUS data set, cost weights also varied greatly depending on whether the patient was covered by Medicaid ($15,033), Medicare ($8,487), private ($4,200), or other public insurance ($19,347). Further analysis of the HCSUS data found that the mean cost estimates for patients were larger when viral load (VL) data was missing ($8,413) than when it was included ($5,362). This difference was especially pronounced at higher CD4 cell count ranges. For example, the mean cost for patients with CD4 200–499 was $3,829 when VL was reported and $6,458 when it was missing, a difference of 67%.

CONCLUSION: As this research illustrates, there may be large differences in cost weights that are derived from different data sources and analytic approaches. Accordingly, they should be given careful consideration when determining the external validity of economic studies.

SATISFACTION WITH SMOKING CESSATION TREATMENTS—A SYSTEMATIC REVIEW OF THE DIMENSIONS

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A major weakness of the literature on treatment satisfaction is the lack of rigor in the development of satisfaction measures. Part of this problem lies in the absence of an accepted conceptual model for treatment satisfaction.

OBJECTIVES: This paper presents a conceptual model for treatment satisfaction and uses it to identify the underlying dimensions associated with smoking cessation treatments.

METHODS: A systematic literature review of databases including MEDLINE, ABI-INFORM, Current Contents, and IPA was conducted. Key words used for the literature search included drug, patient, smoking, physician, pharmacist, placebo effect, and treatment satisfaction. Articles included in the review focused on drug and provider attributes shown in the literature to be significantly associated with overall perceptions of treatment experiences. Treatment satisfaction attributes involving high levels of patient-provider contact were emphasized due to their relevance to smoking cessation treatments.

RESULTS: A conceptual model for treatment satisfaction, based upon the review, was considered to consist of a patient’s assessment of salient aspects of the process and outcome of treatment experiences. Since treatment experiences often contain the administration of both products and services, the conceptual model was considered to consist of both product and service attributes. Support was found in the literature for this conceptualization since evidence showed that both product and service attributes have significant impact on overall evaluations of treatment experiences. Product-related attributes significantly impacting overall treatment satisfaction were categorized under four of the product quality dimensions defined by Garvin (1984): Performance, Features, Aesthetics, and Perceived Quality. Service-related attributes of treatment were classified under the dimensions: Attitude, Responsiveness, Communication, Trust, Access, Motivation, Expertise, and Tangibles.

CONCLUSION: The literature demonstrated support for a conceptual model of treatment satisfaction with both product- and service-related attributes. The inclusion of service attributes is particularly important for treatments consisting of high levels of patient-provider contact such as with smoking cessation treatments. The dimensions in this conceptual model can assist in the development of treatment satisfaction measures.

DESIGN AND VALIDITY OF AUTOMATED HEALTH CARE DATA SCREENS TO DETECT IN-HOSPITAL ADVERSE DRUG EVENTS

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The Institute of Medicine Report on Patient Safety requests a 50% reduction of adverse events. This however, poses a challenge from a measurement perspective. Incidence estimates of adverse events have traditionally been based on medical case review, which is exhaustive and costly. Furthermore, the reliability of this method has been challenged. Recent studies have applied information technology to screen for adverse drug events (ADEs) in order to replace chart review.

OBJECTIVE: To explore the extent to which automated health care data screens can be used to measure the incidence of in-hospital ADEs.

METHODS: Systematic literature review. Keyword search of MEDLINE (1980–2001) electronic database and hand search. Included studies had to describe specific screens that were applied to clinical or administrative databases to detect in-hospital ADEs. They also had to
formally evaluate the validity of the screens with regards to their ability to correctly identify ADEs. Validity was expressed as positive predictive value (PPV).

RESULTS: Ten studies published between 1992 and 2000 met the inclusion criteria. Three approaches used to measure ADE incidence were identified. Two studies screened for generic adverse outcomes (e.g., inpatient deaths), the average PPVs were 1% and 17.4%. Five studies exclusively screened for surrogate outcomes (antidotes commonly used to treat ADEs, or critical lab values, such as elevated creatinine or drug levels) to predict the occurrence of an ADE, with PPVs of 9, 12, 13, 18 and 37%. Three studies tested screens that combined medications and intermediate outcomes (PPVs 12.4, 45 and 53%).

CONCLUSIONS: Automated health care data screens show promise as ADE incidence measure. Their current validity, however, does not appear to be sufficient for cross-sectional comparisons or the evaluation of quality improvement initiatives. Increasing sophistication of the screens by including multiple variables that link process components (e.g. medication) along with adverse outcomes or surrogates (e.g. lab values, antidotes) appear to increase screen validity.

MENTAL HEALTH (including Alzheimer's Disease, Dementia, Alcoholism, and Attention Deficit Disorder)—Clinical Outcomes Presentations

PMH1

USEFULNESS OF ELECTRONIC COMPLIANCE DATA IN AN EFFECTIVENESS TRIAL

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OBJECTIVE: Effectiveness trials are designed to evaluate patients in their natural setting with fewer constraints than in efficacy trials. The less-structured environment can result in a failed trial if participant activity is unknown. We prepared for this possibility by including electronic monitoring of medication dosing in a multicenter trial.

METHODS: The trial was designed to assess the effectiveness of naltrexone for the treatment of chronic alcoholism. Patients took either naltrexone or placebo once daily, using MEMS caps (APREX, Union City, CA) on their medication bottles to record the date and time of each opening. We planned analyses by intention-to-treat and covarying compliance as continuous and categorical variables (grouped as taking medication during 0-24%, 25-49%, 50-74%, >75% of weeks).

RESULTS: Primary endpoints showed no differences between treatment groups at 3 months. Electronic monitoring revealed that patients took 72 ± 31% of naltrexone and 70 ± 31% of placebo doses (overall compliance rates). Naltrexone was taken by 13%, 11%, 12%, and 65% of patients by category. Placebo was taken by 14%, 14%, 11%, and 61% of patients by category. Compliance rates were not significantly different overall or by category between treatment groups. Planned secondary analyses demonstrated that compliance was a predictor of success (p = 0.03 for drinks/day), with no interaction for treatment.

CONCLUSION: These data demonstrate the value of electronic compliance measurement that provided data on any period needed for analyses. Without these data, the results of a complex and expensive study would have been questioned. Critics could have charged that compliance rates differed among treatment groups, or that inadequate amounts of medication were taken to assess outcomes.

PMH2

ESTABLISHING THE EXPECTED RATE OF COGNITIVE DECLINE IN ALZHEIMER'S DISEASE

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The prognosis for patients with Alzheimer’s disease is important information for physicians to be able to provide patients and their relatives as an aid to making appropriate arrangements before the severe stage is reached.

OBJECTIVES: To provide prognosis aids for patients with mild or moderate Alzheimer’s disease based on the standardised Mini-Mental State Examination (SMMSE).

METHODS: Data from a Canadian cohort study of 206 patients with an initial SMMSE between 10 and 24 were used to find determinants of the three-year probability of reaching a highly dependent stage, defined as SMMSE <10. The regression equations were also used to derive a reference failure-time curve. The predicted progression was compared with that observed in a US study (N = 597).

RESULTS: Proportional hazards analyses showed that at the mild stage (SMMSE 19 to 24) the presence of hallucinations was associated with a more rapid decline, whereas at the moderate stage (SMMSE 10 to 18) the important predictors of decline were a lower baseline SMMSE score and longer time since onset. Absence of hallucinations in patients with an SMMSE above 18, implied a 79% probability of remaining independent after three years; presence of hallucinations reduced this to 52%, while a prior rate of decline of 2 points/year did so even further to 43%. Less than half of patients whose SMMSE was already below 19 and who had symptoms for five years or longer remained independent after three years. An initial score below 14 resulted in a probability below 30%. The predictions based on the Canadian study showed reasonable agreement with the progression observed in the US study.

CONCLUSIONS: These equations permit estimation of the expected progression of Alzheimer’s disease, and will...